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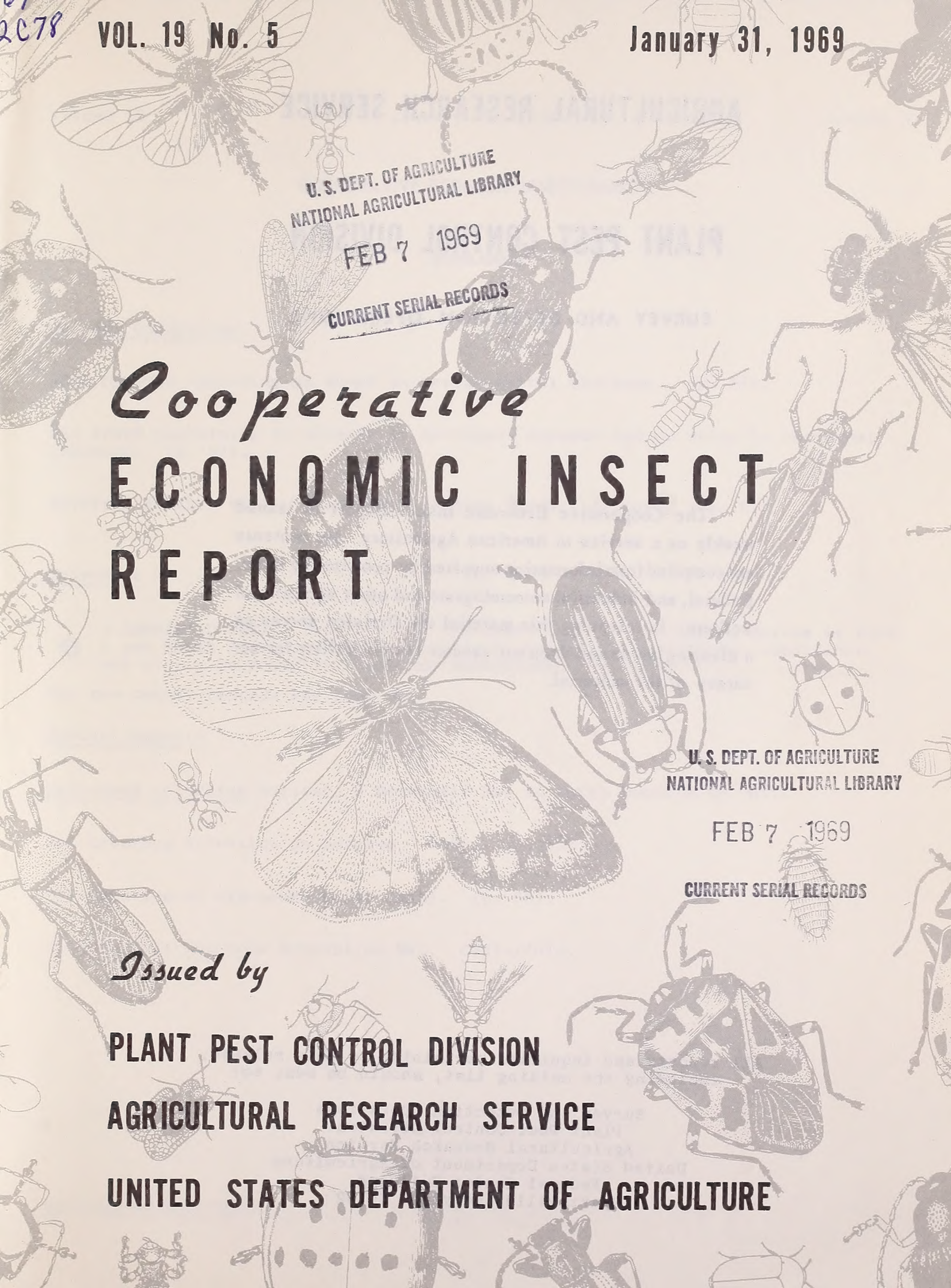
VOL. 19 No. 5 January 31, 1969



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Cooperative
ECONOMIC INSECT REPORT

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Issued by

PLANT PEST CONTROL DIVISION
AGRICULTURAL RESEARCH SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE

AGRICULTURAL RESEARCH SERVICE

PLANT PEST CONTROL DIVISION

SURVEY AND DETECTION OPERATIONS

The Cooperative Economic Insect Report is issued weekly as a service to American Agriculture. Its contents are compiled from information supplied by cooperating State, Federal, and industrial entomologists and other agricultural workers. In releasing this material the Division serves as a clearing house and does not assume responsibility for accuracy of the material.

All reports and inquiries pertaining to this release,
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Survey and Detection Operations
Plant Pest Control Division
Agricultural Research Service
United States Department of Agriculture
Federal Center Building
Hyattsville, Maryland 20782

Volume 19 January 31, 1969 Number 5

COOPERATIVE ECONOMIC INSECT REPORT

HIGHLIGHTS

Current Conditions

ARMY CUTWORM appearing on wheat in north-central Oklahoma. (p. 57).

PEA APHID increasing on alfalfa in southwest Arizona and on vetch in northwest Arkansas. (p. 57).

EGYPTIAN ALFALFA WEEVIL increasing in Yuma County, Arizona. (p. 57).

Detection

● A DERMESTID BEETLE reported for the first time in the United States is also a new North American record. Little is known of the economic importance, but it may be found in homes and warehouses. (p. 61).

For new county records see page 60.

Special Reports

Anthrenus coloratus Reitter, a Dermestid New to North America. (p. 61).

The Greenbug Situation on Sorghum - 1968. (p. 63).

Distribution of Old-house Borer (map). (p. 66).

Soybean Cyst Nematode Quarantine Map. Centerfold.

Reports in this issue are for week ending January 24 unless otherwise indicated.

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Soybean Cyst Nematode Quarantine Map. Centerfold.

WEATHER OF THE WEEK ENDING JANUARY 27

HIGHLIGHTS: Bitter cold weather continued over the northern Great Plains. Snow reached record depths in the Cascades. Heavy rains saturated soil in southern California resulting in mudslides which destroyed many homes, killing occupants, and closing some canyon roads.

PRECIPITATION: Stormy weather covered almost all parts of the Nation last week. Rainy season continued in the Pacific Northwest. Snow covers entire State of Washington with depths ranging from 8 to 15 inches in the western lowland, 25 to 50 inches and 116 inches at 3,000 feet, and 225 inches at 5,500 feet in the Cascades. Heavy rains in California, which began Saturday, January 18, slackened temporarily late Tuesday after dumping up to 10 inches or more along the south coast but intensified again two days later. The weather situation in southern California became one of the worst on record. Mudslides closed some highways, especially canyon roads. Many homes crushed by mud; many fell into canyons when the saturated soil slipped from beneath them. Dozens of persons were killed - buried in mud. Thousands of persons were made homeless. Estimates of damage range widely from 30 million to 50 million dollars or more. Rain and snow fell in the Great Basin and snow spread eastward from the Cascades to the northern Great Plains. Freezing rain and freezing drizzle glazed the highways from eastern South Dakota, Nebraska, and Kansas northeastward across Minnesota and Iowa to Wisconsin. About midweek with arrival of colder temperatues, freezing rain ended and snow began. Strong winds lifted snow into the air, reducing visibility and drifting snow badly from the Dakotas to Kansas and from Minnesota to Arkansas. Travel was slow, hazardous, and, in some places, impossible. Warm, moist air poured northward over cold ground causing widespread fog from the eastern Great Plains to the Atlantic Ocean. Fog hindered both surface and air travel. Rain in the Deep South spread northward to the Middle Atlantic States on Monday and by Tuesday rain fell from the Ohio River Valley to the middle Atlantic coast. Rain, drizzle, and fog occurred in the valleys and along the coast. Snow or mixture of snow and freezing rain fell in the eastern mountains. Areas affected extended as far north as Maryland by Thursday and to New England by weekend. On Thursday morning a tornado in south-central Mississippi killed 28 persons, injured 138 others, and destroyed 96 dwellings. On Sunday 6-8 inches of snow fell over western and central Missouri and 1-2 inches from eastern Missouri and southern Illinois to the southern Appalachians where snow continued falling Monday morning. Weather of the week continued on page 59.

SPECIAL INSECTS OF REGIONAL SIGNIFICANCE

ARMY CUTWORM (Chorizagrotis auxiliaris) - OKLAHOMA - Second to fourth instars up to 1 per linear foot on Payne and Noble County wheat; present in Kingfisher County. (Okla. Coop. Sur.).

GREENBUG (Schizaphis graminum) - NEW MEXICO - Averaged 4-8 per linear foot on wheat at Clayton area, Union County; damage minor. (Mathews, Nielsen). OKLAHOMA - Range per linear foot by county: Kay and Kingfisher 8-10 on wheat, Payne and Noble 1-4, McCurtain 0-5. (Okla. Coop. Sur.). ARKANSAS - Survey negative in northwest. (Boyer).

SPOTTED ALFALFA APHID (Therioaphis maculata) - OKLAHOMA - Up to 4 per square yard on McCurtain County alfalfa. (Okla. Coop. Sur.).

SMALL GRAINS

APHIDS - OKLAHOMA - Rhopalosiphum padi up to 5 per linear foot in 2 McCurtain County wheatfields. Macrosiphum avenae (English grain aphid) up to 1 per foot on Payne and Noble County wheat. (Okla. Coop. Sur.). ARKANSAS - M. avenae low, 50-100 per 100 sweeps on oats in northwest; few alates. (Boyer).

FORAGE LEGUMES

PEA APHID (Acyrthosiphon pisum) - ARIZONA - Ranged 1,600-2,600 per 100 sweeps of alfalfa on the Yuma Mesa, Yuma County. (Ariz. Coop. Sur.). OKLAHOMA - Up to 4 per linear foot on McCurtain County alfalfa. (Okla. Coop. Sur.). MISSISSIPPI - Moderate, approximately 40 adults and nymphs per 100 sweeps on Lee County alfalfa. (Dinkins, Jan. 17). ARKANSAS - Ranged 5-10 per square foot on vetch in northwest area. (Boyer).

EGYPTIAN ALFALFA WEEVIL (Hypera brunneipennis) - ARIZONA - Averaged 9 adults and 2 larvae per 100 sweeps of alfalfa at Yuma, Yuma County. (Ariz. Coop. Sur.).

GENERAL VEGETABLES

GREEN PEACH APHID (Myzus persicae) - ARIZONA - Some lettuce fields requiring treatment at Yuma, Yuma County. (Ariz. Coop. Sur.).

DECIDUOUS FRUITS AND NUTS

ARMORED SCALES - CALIFORNIA - Parlatoria oleae (olive scale) heavy on apple tree in Grass Valley, Nevada County, for a new county record. Aspidiotus perniciosus (San Jose scale) heavy on almond trees at San Jose, Santa Clara County. (Cal. Coop. Rpt.). FLORIDA - Pseudaulacaspis pentagona (white peach scale) moderate on 200 of 1,000 peach trees in nursery at Glen St. Mary, Baker County (Collins, King, Jan. 8); females moderate on 1,000 of 10,000 peach trees in nursery at Mascotte, Lake County (Henderson, Jan. 14).

CITRUS

ARMORED SCALES - FLORIDA - Parlatoria pergandii (chaff scale) and Lepidosaphes gloverii (Glover scale) light on 2,100 of 3,000 Citrus sp. nursery trees at Plant City, Hillsborough County. (Vaughan, Jan. 2).

SMALL FRUITS

EUROPEAN CORN BORER (Ostrinia nubilalis) - ARKANSAS - Single larva found in grapevine by E. Brown in Johnson County November 16, 1968. Determined by W.D. Weisman. (Wylie, Rouse). This is a new host record. (Boyer).

ORNAMENTALS

A BARK BEETLE (Phloeosinus cupressi) - CALIFORNIA - Adults heavy on Monterey cypress nursery stock at Danville, Contra Costa County. (Cal. Coop. Rpt.).

ARMORED SCALES - FLORIDA - Mature scales of Ceroplastes floridensis (Florida wax scale), some with eggs, severe on 1,320 container-grown plants of Burford holly in nursery in Hillsborough County. (Vaughan, Dekle). The following are new Florida Department of Plant Industry host records. All stages of Lepidosaphes beckii (purple scale) on variegated elaeagnus (Elaeagnus pungens) October 29, 1968, at Raiford, Union County. (Collins). This is a new county record. (Fla. Coop. Sur.). Aspidiotus juglansregiae (walnut scale) adults on stems of honeysuckle (Lonicera heckrotti) October 31, 1968, in nursery at Gainesville, Alachua County. (Graham).

BROWN SOFT SCALE (Coccus hesperidum) - CALIFORNIA - Heavy on orchids in orchid house at Larkspur, Marin County. (Cal. Coop. Rpt.).

A MEALYBUG (Spilococcus pressus) - CALIFORNIA - Heavy on oleander at Brawley, Imperial County. (Cal. Coop. Rpt.).

FOREST AND SHADE TREES

NANTUCKET PINE TIP MOTH (Rhyacionia frustrana) - OKLAHOMA - Live pupae in 75 percent of young pine tips on roadsides in McCurtain County. (Okla. Coop. Sur.).

DOGWOOD BORER (Thamnosphecia scitula) - ALABAMA - Larval feeding increased in cambium layer of many dogwood trees past 10-15 warm days statewide. Increased larval feeding and movement attracted birds. Much fresh "pecking" injury to bark. Many older infested spots on older trees have 2-15 larvae. (McQueen).

MAN AND ANIMALS

SCREW-WORM (Cochliomyia hominivorax) - Total of 3 cases reported in U.S. January 19-25 as follows: TEXAS - Starr, Webb, Zapata. Total of 82 cases reported in portion of Barrier Zone in Republic of Mexico January 13-17 as follows: Territorio sur de Baja California 12, Sonora 45, Coahuila 6, Nuevo Leon 4, Tamaulipas 15. Total of 5 cases reported in Mexico south of Barrier Zone. Barrier Zone is area where eradication operation underway to prevent establishment of self-sustaining population in U.S. Sterile screw-worm flies released: Texas 10,168,000; Mexico 46,000,000. (Anim. Health Div.).

COMMON CATTLE GRUB (Hypoderma lineatum) - UTAH - Adults very troublesome in several areas of Emery County in 1968; grubs now a problem. (Day, Knowlton, Jan. 20). OKLAHOMA - Range per head on steers by county: Noble 5-18, Payne 0-9. (Okla. Coop. Sur.). ARKANSAS - Average per head on cattle by county: Boone and Faulkner 12 on untreated, Independence 10 on untreated and 0.5 on treated animals. (Roberts).

CATTLE LICE - UTAH - Troublesome in several Kane County beef herds. (Knowlton, Jan. 23). OKLAHOMA - Haematopinus eurysternus (short-nosed cattle louse) less than 1 per hair part on Payne and Noble County steers. (Okla. Coop. Sur.). MISSISSIPPI - Linognathus spp. moderate in dairy herd of 40 animals in Oktibbeha County. (Dinkins, Jan. 17).

HOG LOUSE (Haematopinus suis) - OKLAHOMA - Light on Payne County hogs. (Okla. Coop. Sur.).

BENEFICIAL INSECTS

TACHINA FLIES - OKLAHOMA - Reared from Peridroma saucia (variegated cutworm) collected in Noble County May 1968: Periscepsia laevigata, Archytas apicifer, Euphorocera omissa, Peleteria texensis, Winthemia rufopicta, Clausicella opaca, and Gonia sequax. Determined by D.M. Wood. (Okla. Coop. Sur.).

HYMENOPTEROUS PARASITES - ARKANSAS - Active on small grain in northwest area January 22. (Boyer). OKLAHOMA - Euplectrus plathypenae (a braconid) reared from Peridroma saucia (variegated cutworm) collected in Noble County May 1968. Determined by O. Peck. (Okla. Coop. Sur.).

FEDERAL AND STATE PLANT PROTECTION PROGRAMS

PINK BOLLWORM (Pectinophora gossypiella) - CALIFORNIA - Results of preliminary statistical soil sampling in Coachella Valley. To date, 37 diapausing larvae recovered from 9 of 15 samples representing 135 cubic feet of soil; 3 samples of 9 cubic feet each, drawn from each of 5 fields. Larvae about 11,761 per acre. Host free period for cotton extended in district 3, comprising San Joaquin Valley cotton counties and Los Angeles and San Bernardino Counties. Rain, fog, and generally damp conditions in the valley delayed final harvest or stalk destruction and cultivation of fields. Host free period for 1968-1969 crop year will be February 1 to March 15, instead of from January 15, a reduction of 15 days. (Cal. Coop. Rpt.).

RANGE CATERPILLAR (Hemileuca oliviae) - NEW MEXICO - Eggs very spotted and light in Union and Harding Counties. Egg masses light to heavy in area west of Abbott to Maxwell, Colfax County. (Mathews, Nielsen).

TULIPTREE SCALE (Toumeyella liriodendri) - CALIFORNIA - Prespray survey in infested areas of San Jose started. In Willow Glen area only 2 blocks remain to be treated. Skylift enabled scrutiny of yellow-poplar twigs 35 feet up; 146 trees on 115 properties examined, including trees just outside spray area. No indications of live infestations. (Cal. Coop. Rpt.).

WEST INDIAN SUGARCANE ROOT BORER (Diaprepes abbreviatus) - FLORIDA - Larvae in soil around roots of citrus trees at Plymouth and Apopka, Orange County. (DeWolf et al., Jan. 15).

Weather of the week continued from page 56.
Gloomy weather with rain or fog occurred in most of the Great Lakes region and the Northeast on several days. Areas with no rain or only light scattered sprinkles last week include Texas and nearby portions of New Mexico and Oklahoma.

TEMPERATURE: Bitter cold prevailed through the week over Montana and North Dakota. Minimums dropped far below zero each morning and remained below zero many afternoons. Havre, Montana, chilled to -52° Friday morning and warmed to -29° in the afternoon. The average temperature at Havre for the week was -25°. By Friday morning the zero line enclosed parts of more than a dozen States and extended as far south as northern New Mexico. Most of the central Great Plains and the Southeast had remained above freezing but by Friday morning the freezing line had moved south of Austin, Texas, dropping the temperature from 46° the previous afternoon. Florida, however, still enjoyed summer temperatures with daily ranges generally from near 60° in the mornings to about 75° in the afternoons. Temperatures averaged above normal over the Southwest and much of the East and below normal over the northern Rockies and the northern and central Great Plains. Montana, the Dakotas, and Nebraska averaged more than 10° colder than normal. (Summary supplied by Environmental Data Service, ESSA.)

HAWAII INSECT REPORT

General Vegetables - DIAMONDBACK MOTH (Plutella xylostella) larvae, pupae, and adults heavy on celery (Chinese) cabbage at Kalaheo, Kauai. Larvae heavy, damage light to moderate on watercress at Pearl City, Oahu. (Ikehara, Oshita). GREENHOUSE WHITEFLY (Trialeurodes vaporariorum) trace to light on snap beans, eggplants, cucumbers, and tomatoes in all farm areas on Oahu although bad weather hampered controls. Decrease may be due to unusually cold weather. (Funasaki).

Fruits and Nuts - COCONUT SCALE (Aspidiotus destructor) increasing and spreading on coconut trees from Honolulu International Airport area to Waianae district, Oahu. Light in several small banana patches at Pearl City. An ARMORED SCALE (Phenacaspis cockerelli) light to moderate and widespread on banana foliage in 80-acre field at Kaneohe, Oahu. Light to heavy on plumeria, oleander, and various palms in many residential areas of Honolulu and Waianae on Oahu and of Kona, Hawaii Island. (Nakao, Yoshioka).

Ornamentals - A SPIDER MITE (Schizotetranychus celarius) heavy on foliage of ornamental bamboo on Honolulu International Airport grounds, Oahu. (Shiroma). SWEETPOTATO HORNWORM (Agrius cingulatus) damage spotty on dichondra in Hawaii-Kai area of Honolulu, Oahu. (Kajiwara).

Beneficial Insects - Adults of a TACHINA FLY (Trichopoda pennipes var. pilipes) numerous on flowers of rattlebox, bur-marigold, and other weeds at Ewa, Oahu. SOUTHERN GREEN STINK BUG (Nezara viridula), mostly nymphs, moderate on rattlebox. (Hale, Funasaki).

Miscellaneous Insects - VAGRANT GRASSHOPPER (Schistocerca vaga) adults very heavy in weed areas on southwestern and western coasts of Oahu. Up to 12 adults per 10 by 10-foot area near the airport. (Olson et al.).

INSECT DETECTION

New North American Record

A DERMESTID BEETLE (Anthrenus coloratus Reitter) - Collected at Richmond, Virginia, by I.E. Finold June 16, 1960. Also collected in California, District of Columbia, Illinois, and Maryland. All determinations were made by M. Mroczkowski. (p. 61).

New County Records

OLIVE SCALE (Parlatoria oleae) - CALIFORNIA - Nevada County. (p. 57).

PURPLE SCALE (Lepidosaphes beckii) - FLORIDA - Union County. (p. 58).

CORRECTIONS

CEIR 19(2):27 - COOPERATIVE SURVEY ENTOMOLOGISTS - MARYLAND - Should read: Mr. John L. Hellman, Department of Entomology, University of Maryland, College Park 20742.

LIGHT TRAP COLLECTIONS

FLORIDA - Gainesville - 1/17-23, BL - Black cutworm (Agrotis ipsilon) 4, granulate cutworm (Feltia subterranea) 10, yellow-striped armyworm (Prodenia ornithogalli) 1. TEXAS - Brownsville - 1/18-24, 55-86°F., 0.01 in., 2BL - Armyworm (Pseudaletia unipuncta) 64, black cutworm 195, cabbage looper (Trichoplusia ni) 2, corn earworm (Heliothis zea) 24, fall armyworm (Spodoptera frugiperda) 6, granulate cutworm 6, salt-marsh caterpillar (Estigmene acrea) 1, tobacco budworm (H. virescens) 1, variegated cutworm (Peridroma saucia) 40, yellow-striped armyworm 91.

THE FOLLOWING CROPS OR ARTICLES MUST BE MOVED UNDER CERTIFICATE OR LIMITED PERMIT YEAR-ROUND EXCEPT AS NOTED

1. Soil, compost, decomposed manure, humus, muck, and peat, separately or with other things.
   Soil samples shipped to Corps of Engineers Laboratories are exempt.

2. Plants with roots.

3. Grass sod.

4. Plant crowns and roots for propagation.

5. True bulbs, corms, rhizomes, and tubers of ornamental plants.

6. Root crops, except those from which all soil has been removed.
   Root crops, such as beets, carrots, Irish potatoes, onions, radishes, rutabagas, sweetpotatoes, and turnips are exempt if moving to a designated processing plant.*

7. Peanuts in shells and peanut shells, except boiled or roasted peanuts.
   Peanuts are exempt if moving to a designated processing plant.*

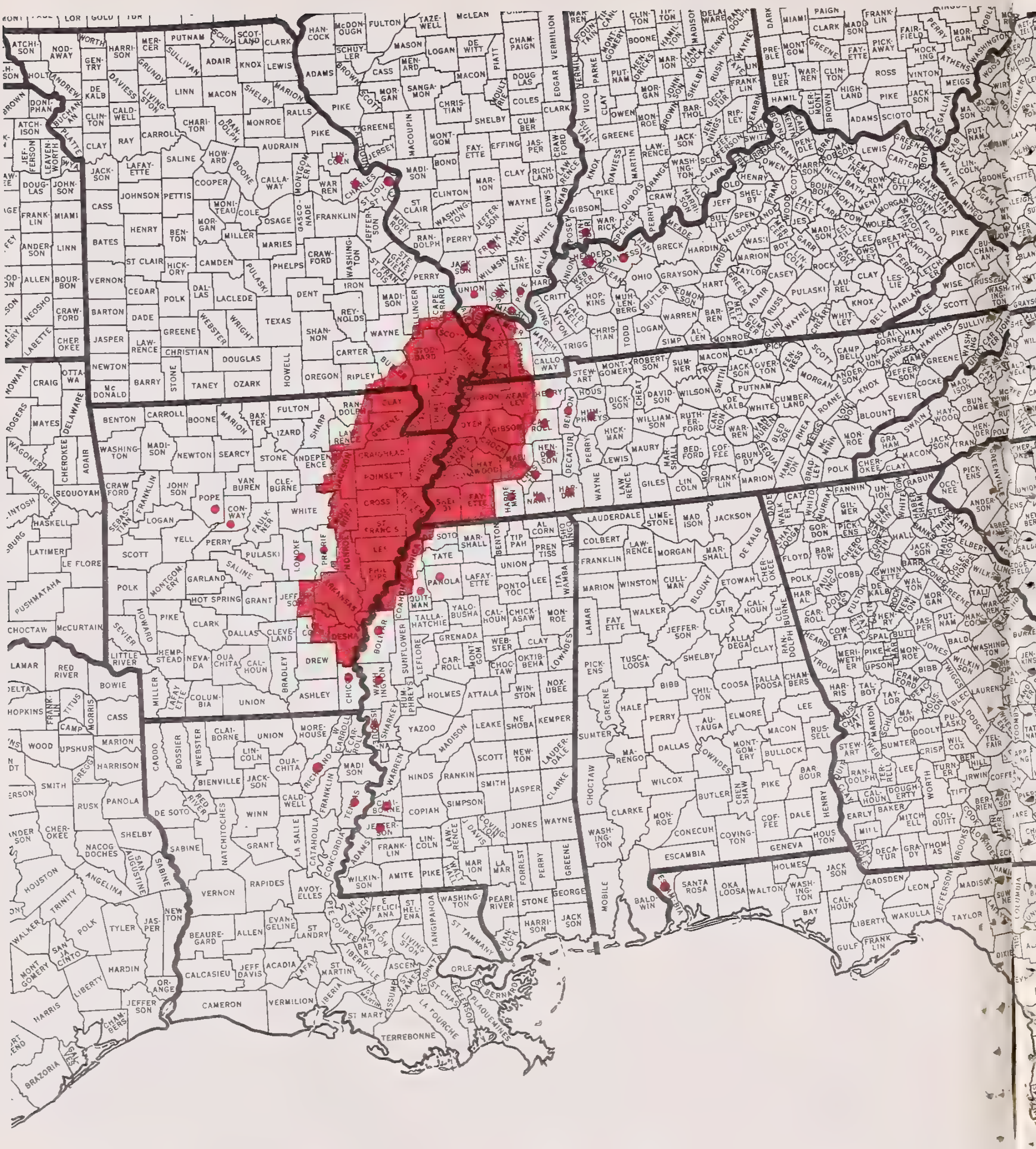
8. Soybeans.
   Soybeans, other than for seed purposes, are exempt** if harvested in bulk or directly into new or treated containers, and if the beans and containers thereof have not come in contact with the soil.

9. Hay, straw, fodder, and plant litter of any kind.

10. Seed cotton.

SOYBEAN CYS

COOPERATIVE FEDERAL



Revised Nov. 1, 1968.

SEE REVERSE SIDE FOR REQUIREMENTS CONCE

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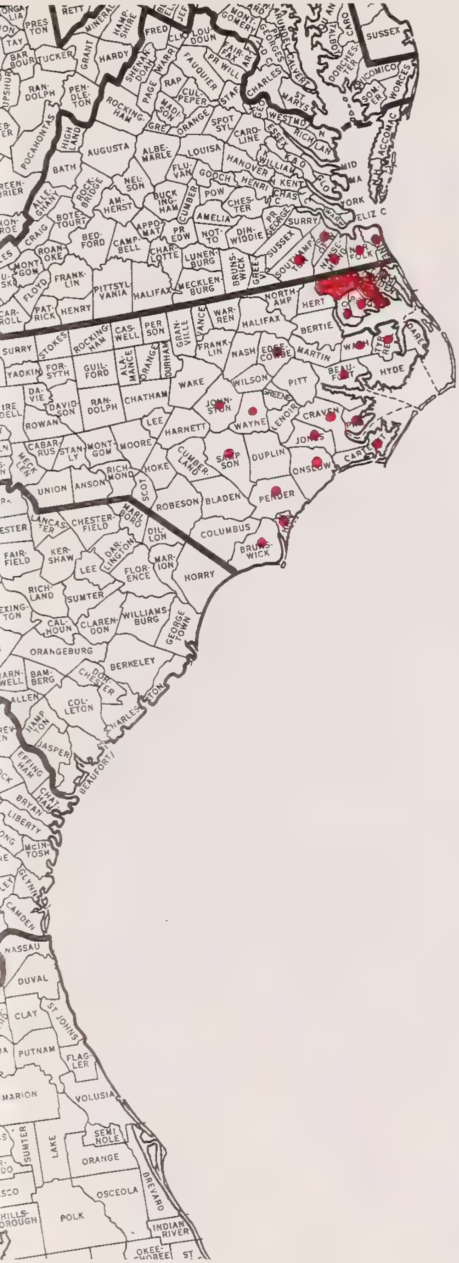
TATE QUARANTINES



COUNTIES ENTIRELY COLORED ARE COMPLETELY REGULATED;
COUNTIES PARTIALLY COLORED ARE PARTIALLY REGULATED.

🟥 STATE AND FEDERAL REGULATIONS

RESTRICTIONS ARE IMPOSED ON MOVEMENT OF REGULATED ARTICLES FROM RED INTO OR THROUGH WHITE

CONSULT YOUR STATE OR FEDERAL PLANT PEST CONTROL INSPECTOR OR YOUR COUNTY AGENT FOR ASSISTANCE REGARDING EXACT AREAS UNDER REGULATION AND REQUIREMENTS FOR MOVING REGULATED ARTICLES.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL RESEARCH SERVICE - PLANT PEST CONTROL DIVISION
COOPERATING WITH AFFECTED STATES

CERTIFICATION OF REGULATED ARTICLES.

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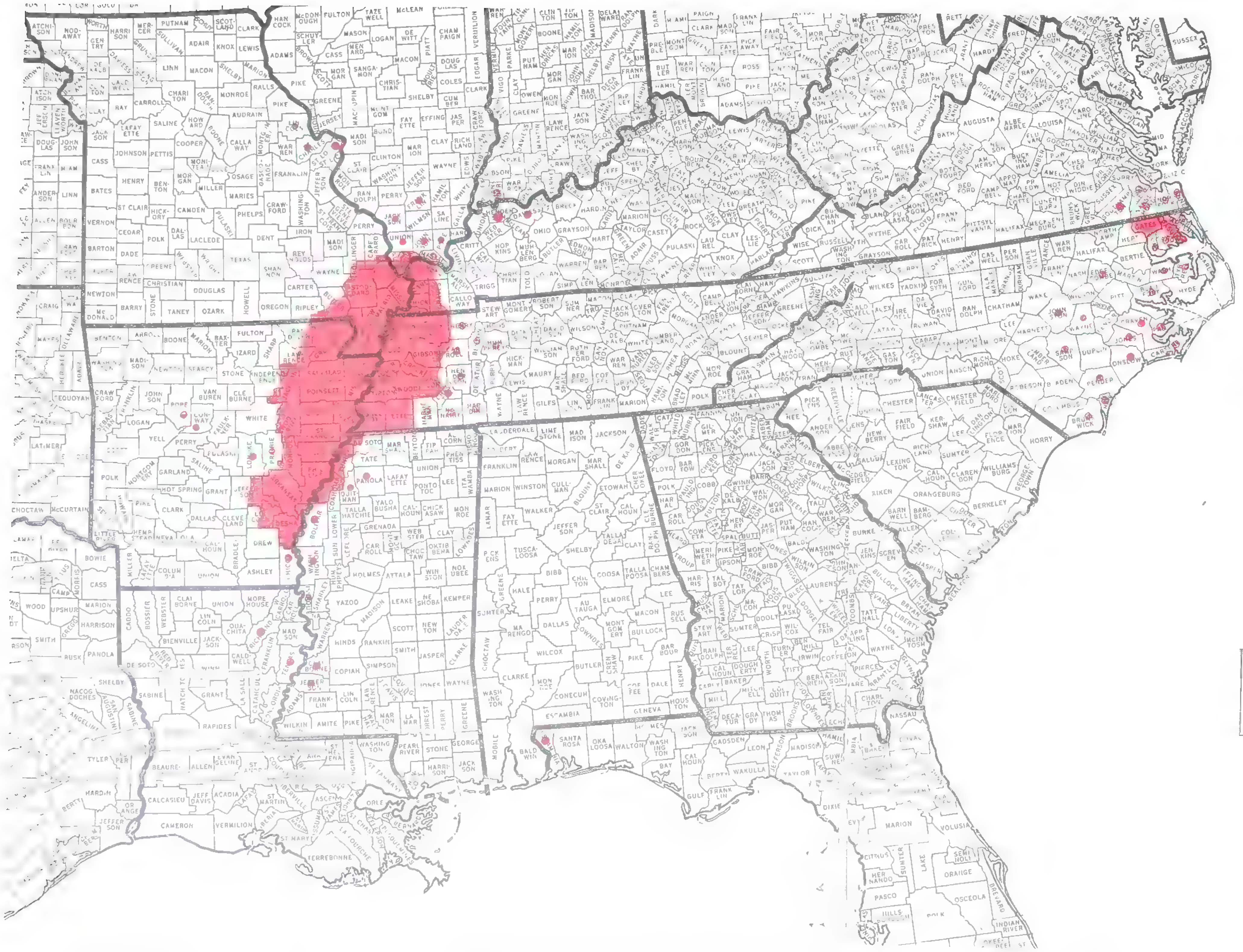
COOPERATIVE FEDERAL/ STATE QUARANTINES



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COOPERATING WITH AFFECTED STATES

Revised Nov. 1, 1968.

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1. Soil, compost, decomposed manure, humus, muck, and peat, separately or with other things.
   Soil samples shipped to Corps of Engineers Laboratories are exempt.

2. Plants with roots.

3. Grass sod.

4. Plant crowns and roots for propagation.

5. True bulbs, corms, rhizomes, and tubers of ornamental plants.

6. Root crops, except those from which all soil has been removed.
   Root crops, such as beets, carrots, Irish potatoes, onions, radishes, rutabagas, sweetpotatoes, and turnips are exempt if moving to a designated processing plant.*

7. Peanuts in shells and peanut shells, except boiled or roasted peanuts.
   Peanuts are exempt if moving to a designated processing plant.*

8. Soybeans.
   Soybeans, other than for seed purposes, are exempt** if harvested in bulk or directly into new or treated containers, and if the beans and containers thereof have not come in contact with the soil.

9. Hay, straw, fodder, and plant litter of any kind.

10. Seed cotton.
    Seed cotton is exempt if moving to a designated gin.*

11. Ear corn, except shucked ear corn.
    Unshucked ear corn is exempt** if harvested without coming into contact with the soil.

12. Used crates, boxes, burlap bags, cottonpicking sacks, and other used farm-products containers.
    Cottonpicking sacks are exempt** if they have been cleaned or treated to the satisfaction of the inspector.

13. Used farm tools and implements.
    Used farm tools and implements are exempt** if cleaned free of soil.

14. Used mechanized cultivating equipment and used harvesting machinery.

15. Used mechanized soil-moving equipment.

*Information as to designated facilities, gins, oil mills, and processing plants may be obtained from an inspector.

**Exempt if not exposed to infestation after cleaning or other prescribed handling.

Anthrenus coloratus Reitter,

a Dermestid New to North America (Coleoptera)

Collections of a species of dermestid beetle made in several localities in the United States were recently determined by Dr. Maciek Mroczkowski of Warsaw, Poland, to be *Anthrenus* (*Anthrenops*) *coloratus* Reitter (1800), the first records of this species in North America. The species was previously known from Asia, Africa, and Europe.

Anthrenus coloratus is easily distinguished from the other North American species of *Anthrenus* by the following combination of characteristics:

1. Each antenna with 9 segments (fig. 4). Other species have 5, 8, or 11 segments.
2. Basal abdominal segment without coxal lines. Compare fig. 2 and fig. 3.
3. Color pattern as in fig. 1. Transverse bands of golden yellow to chocolate brown scales alternated with bands of gray scales.
4. Small size. Length 1.5 to 2.25 mm. Width 1.0 to 1.5 mm.

In color, this species most closely resembles *Anthrenus verbasci* (L.), but the latter can be separated by its 11-segmented antennae, coxal lines, and unique emarginate eyes.

Little is known of the life history of *Anthrenus coloratus* except that it was bred from caraway seeds in the Sudan (Hinton, 1945). The records listed here indicate that it may be a minor pest of insect collections and may be found in the home or in warehouses.

Records -- VIRGINIA: Richmond, June 6, 1960, I. E. Finold collector, in tobacco warehouse; Arlington, June 5, 1966, in window of home. DISTRICT OF COLUMBIA: July 25, 1968, Janice White collector; June 9, 1960, H. Roberson collector; Nov. 1, 1964, in home; Jan. 31, 1968, John Lane collector, in dried insects. MARYLAND: Silver Spring, August 1968, John Kingsolver, collector, in lamp globe. ILLINOIS: Chicago, July 1963, Helen Kennedy collector, in cacao bean hulls from Ecuador. CALIFORNIA: Heber, May 8, 1968, R. A. Flock collector, in alfalfa.

Reference: Hinton, H. E. 1945. A monograph of the beetles associated with stored products. Vol. 1. British Museum, London. 443 pp. (pp. 356-357).

See page 62 for illustrations.

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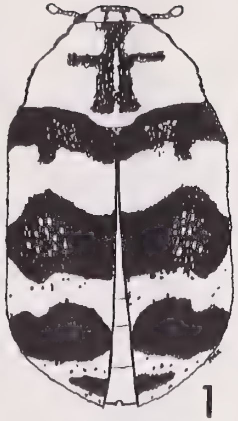
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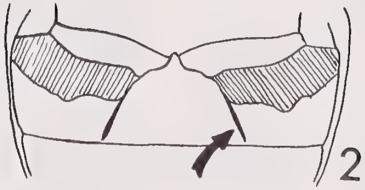
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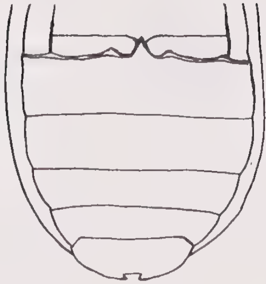
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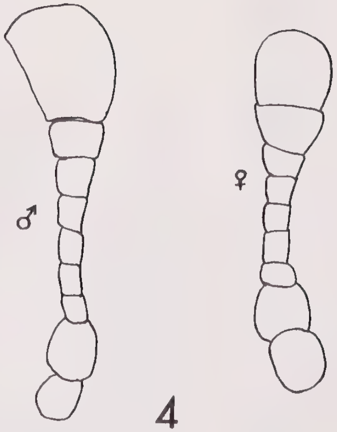

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1. Dorsal aspect of *Anthrenus coloratus*.
2. Abdomen showing coxal lines, *Anthrenus verbasci*.
3. Abdomen without coxal lines, *Anthrenus coloratus*.
4. Antennae, *Anthrenus coloratus*.

U.S. Dept. Agr.
Coop. Econ. Ins. Rpt.
19(5):61-62, 1969

The Greenbug Situation on Sorghum-1968

Widespread outbreaks of greenbug (Schizaphis graminum (Rondani)) 1/ were reported on grain sorghum in the Midwest and Southwest in 1968. 2/ Severe infestations were reported from Nebraska, Kansas, Oklahoma, Texas, New Mexico, and Arizona. Infestations on sorghum were also reported in California, Utah, Colorado, Wyoming, and South Dakota, but the problem was not as serious as in the aforementioned States. Although a localized outbreak was reported on sorghum in Kansas in 1916, the aphid has never before been recorded causing widespread damage to that crop in this country. In fact, there are very few reports in Agricultural Research Service files of S. graminum occurring on sorghum.

Greenbug is of European origin, being first reported in the United States during 1882 in Virginia. It is now generally distributed over most of the country with its range extending northward into Canada. S. graminum is not common in the New England States. The greatest damage from this pest has occurred in the large grain-producing States west of the Mississippi River, including Texas, Oklahoma, Kansas, and Nebraska. Greenbug is considered the most destructive aphid that infests small grains in this country.

The first indication of this new development on sorghum came on September 19, 1967, when infestations were reported from 4 counties in west Texas. First reports of damage to sorghum by greenbug in 1968 came from Jefferson County, Nebraska, on May 20 when plants were 1.5 to 2 inches high. Damage to seedling sorghum was reported May 24 in Geary County, Kansas. Large numbers of greenbug were observed on this crop in Parmer County, Texas, the first week of July and in east-central New Mexico at the same time. Greenbug on sorghum in Oklahoma was first noted in Marshall County and in the southwest area during mid-July. The problem first appeared on sorghum in Cochise County, Arizona, in mid-July.

Greenbug populations increased slowly in Nebraska until about July 25, then increased at an explosive rate. Almost all sorghum acreage in the State was affected. Populations declined sharply by early August in the eastern area and had all but disappeared in the southwest and the panhandle areas of Nebraska by mid-August. The outbreak was first noted in Kansas in the northeast and within 2 weeks heavy numbers were found in many areas of the western section of the State. Infestations moved from south-central and southwestern Oklahoma into central, west-central, and northwestern areas of the State in very high numbers in restricted areas.

By July 20, greenbug was present on sorghum in most counties in the High Plains and panhandle areas of Texas. Populations developed rapidly. Scattered infestations were observed in the Rolling Plains counties, but economic populations were very rare. Greenbug also occurred on sorghum in central and southern counties of Texas, but no economic populations were encountered.

Infestations in New Mexico moved northward from the east-central area. Greenbug was first observed on sorghum in Arizona at San Simon in Cochise County in early July. By late July and early August greenbug ranged light to heavy on sorghum throughout the county. Greenbug was not a particular problem on sorghum in

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1/ According to recent taxonomic studies by L.M. Russell, this aphid on sorghum appears to be this species.

2/ A questionnaire was submitted to cooperators in 21 States in an attempt to gather information on the greenbug problem on sorghum in the fall of 1968. This report is based on responses received from all of these States.

California. The aphid occurred on this crop in only 6 counties and no significant damage was reported. The outbreak on feed sorghums in Washington County, Utah, became serious in late August and early September.

Greenbug populations were light but general throughout the sorghum-growing areas of Colorado by mid-July. By early August, infestations were heavy on lower leaves and damage was occurring. Populations on sorghum peaked August 16 in Wyoming and declined thereafter. The only infestation observed in the State was on 40 acres of experimental sorghum. Damage to sorghum in South Dakota was first observed in late July, at which time infestations were well advanced. An accurate estimate of the overall situation was difficult in the State as infestation was spotted. Incidence was higher in south-central counties, but infestations were detected as far north as Spink County.

According to contributors to this report, the principal factors involved in the greenbug problem on sorghum during 1968 were the rapidity with which infestations developed, the large area involved, a lack of knowledge of the pest on sorghum, and the unseasonable behavior of the aphid. Weather conditions also influenced the situation. Conditions were favorable for greenbug development.

The aphid reached damaging numbers before parasites and predators increased to effective levels. By late July and early August, however, populations of beneficial insects increased to significant levels in most areas and greenbug populations decreased. Damage to sorghum in some sections would have been more severe if predators and parasites had not been active.

There is an indication that the greenbug on planted wheat in some areas is the same biotype that infested sorghum. The greenbug on sorghum in Nebraska appeared to move to volunteer wheat where it remained in low numbers until late August when several infestations were reported on rye. The pest was observed on newly planted winter wheat during late September in eastern Nebraska. Movement to volunteer wheat occurred during late August in Kansas. In Oklahoma, there was no movement of greenbug from sorghum to small grains apparent after beneficial insects increased to effective levels.

No movement from sorghum to fall-planted small grains was reported in Arizona. In California, greenbug was found on some volunteer oats and barley and large numbers occurred on Johnson grass in Kings County. Some were seen on volunteer barley in Glenn, Fresno, Tulare, and Imperial Counties. Wheat emerging prior to September 1 in Colorado was completely killed out. After this date, emergence and survival were good, but the aphid ranged light to moderate on wheat in the Arkansas Valley. A survey completed October 5 in South Dakota indicated very little, if any, movement from sorghum to wheat.

Greenbug infested an estimated 7,343,000 acres of sorghum in the nine States where the problem was the most serious. An estimated 3,327,000 acres were treated. The average cost per acre for control ranged from $1.50 to $5.50 and averaged $2.60. The estimated loss to sorghum due to infestations of greenbug in 1968 was well in excess of $20,000,000 with Kansas, Oklahoma, Nebraska, and New Mexico reporting the most damage. No definite loss figures are yet available from Oklahoma and Texas.

See table on page 65.

THE GREENBUG SITUATION ON SORGHUM - 1968

State	Estimated Acreage Treated	Control Cost Per Acre (Dollars)	Estimated Sorghum Loss (Dollars)	Predators and Parasites
Arizona	30,000	$1.50	235,000	Lady beetles, syrphid fly larvae, and ichneumon wasps
California	38,500	2.25-5.50	99,000	Lady beetles, lacewings, syrphid fly larvae, assassin bugs, and a braconid wasp (*Lysiphlebus testaceipes*)
Colorado	150,000	2.00-2.50	800,000	Convergent lady beetle and parasites
Kansas	600,000	2.50	12,240,000	Unspecified
Missouri	350+	3.50	Very small	Unspecified
Nebraska	575,000	2.85	* 3,500,000	Unspecified
New Mexico	137,000	1.80-2.50	3,375,000	Unspecified
Oklahoma	300,000	1.75-2.50	1-15 million	Unspecified
South Dakota	5,000	2.00-2.25	Undetermined	Unspecified
Texas	1,500,000	1.90	Not available	Unspecified
Utah	-	-	8,500	Lady beetles, syrphid fly larvae, flower bugs, big-eyed bugs, and anthocorid bugs

* Includes control cost

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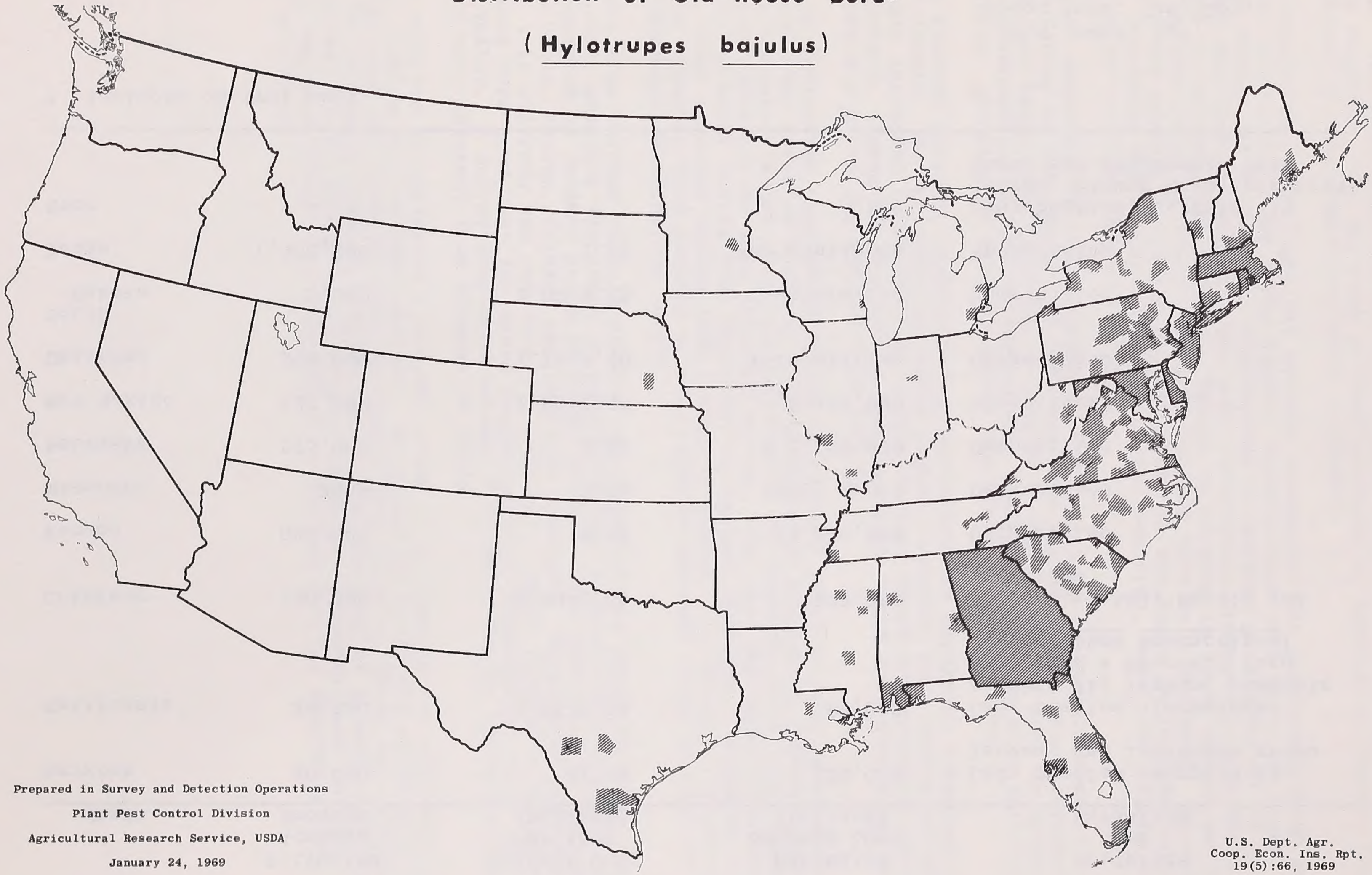
Distribution of Old-house Borer

(*Hylotrupes bajulus*)



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